



BOROUGH OF BOOTLE.

Annual Report

OF THE
SCHOOL MEDICAL OFFICER.

1914.

BOOTLE :

HUGH EVANS & SONS, 68 HERTFORD ROAD & 356, 358 STANLEY ROAD, LIVERPOOL.

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Members of the Elementary Education Sub-Committee.
1914-1915.

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Mr. Alderman ROBERTS, L.R.C.P., J.P. (Chairman of the Education Committee),
 and

HIS WORSHIP THE MAYOR (Mr. Councillor CASSADY).

Medical Staff

School Medical Officer and Medical Officer of Health—

W. ALLEN DALEY, M.D., B.S., B.Sc. (Lond.); B.A. (R.U.I.); D.P.H. (Cantab.).

Medical Inspector of Scholars and Assistant Medical Officer of Health—

H. J. MILLIGAN, M.D. (Glasgow); D.P.H. (Cantab.); (until November).

J. MAXWELL TAYLOR, M.A., M.B., D.P.H. (Aberdeen); (since November).

Ophthalmic Surgeon (part-time)—

R. E. HARCOURT, M.D., F.R.C.S.

School Nurses—

Miss W. NICHOLLS

Miss A. HUGHES

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THE SCHOOL MEDICAL OFFICER'S REPORT.

6th April, 1915.

*To the Chairman and Members of the
Local Education Authority.*

LADIES AND GENTLEMEN,—

I have the honour to present herewith the seventh Annual Report on the Inspection of Schools and School Children.

Changes in, and depletion of, the Corporation's medical staff in consequence of the European War have made it difficult to find the necessary time in which to prepare a report on the lines of those issued in previous years, but the usual statistics have been supplied in order that comparisons with the past and future years may be made.

Dr. Taylor has greatly assisted in the compilation of this report.

The nursing and clerical staff continue to give most valuable service.

I wish again to acknowledge my appreciation of the constant help which I have received from the officials of the Education Department.

I have also to thank again the members of the Elementary Education Sub-Committee for the active interest which they have taken in this branch of their work and for the time and attention which they have devoted to it.

I am, Ladies and Gentlemen,

Yours obediently,

W. Allen Daley.

School Medical Officer.

COUNTY BOROUGH OF BOOTLE.

The population of the Borough at the Census of 1911 was 69,876 : 13,965 were between five and fourteen years of age. In July 1914, the estimated number between these ages was 14,635, and of the total population 73,230

The area is 1,947 acres : exclusive of the Dock Estate it is 1,609.

There are seven Council, three Church of England, and three Roman Catholic Schools. Their accommodation, average number on the rolls and average attendance during 1914, are given in the following table :—

	Accommodation	Average No. on Rolls.	Average Attendance.
Council Schools	7,728	6,954	6,280
Roman Catholic Schools	2,776	3,060	2,660
Church of England Schools	2,407	2,515	2,160
 Total	 12,911	 12,529	 11,100
	<hr/>	<hr/>	<hr/>

On January 31st, 1914, there were in the Denominational Schools 85 boys and 73 girls who were then under the age of five years. Children under that age are not admitted to the Council Schools.

The Day Industrial School was closed as such on June 13th 1914.

I am indebted to the Borough Treasurer for the following :—

The Rateable Value of the Borough in 1913-1914 was £465,447.

The gross cost of Medieal Inspection for the twelve months ending March 31st 1914 was £614 3s. 8d. ; the Government Grant was £273 9s. ; hence the net cost was £340 14s. 8d.

The cost under this head per child on the school rolls was 1s. 1·5d. gross and 7·5d. net, and the cost as a decimal part of a penny rate was ·33d. gross and ·183d. net.

A grant of £307 1s. 10d. was received in March, 1915, in respect of the above mentioned expenditure of £614 3s. 8d. This is on the maximum scale, namely, 50% of the expenditure.

GENERAL REVIEW OF ADMINISTRATIVE ARRANGEMENTS.

The arrangements are similar to those detailed in last year's report.

Dr. Milligan resigned his position as Medical Inspector from 16th November, 1914, upon which date he commenced duty as Clinical Tuberculosis Officer and Deputy Medical Officer of Health of the Borough. Considerable regret is felt that the Education Committee have lost the services of such a capable officer.

Dr. Milligan was succeeded by Dr. Taylor, formerly Assistant School Medical Officer of South Shields.

A second School Nurse was appointed in May. She is a fully trained hospital nurse and in addition to routine work such as assisting at the re-inspections, in connection with verminous cases, following-up, etc., she is in attendance every morning at the clinic for the treatment of minor ailments.

Arrangements have been made through the Secretary for Education for information to be sent from the various schools each week, as to the names of entrants and leavers, and in case of a change of school the inspection schedule is transferred: all schedules and records are kept at the office in the Town Hall.

Groups of Children Examined.—During the year 3,349 routine examinations were performed, comprising 1,364 entrants, 1,073 leavers and 912 children of an intermediate age group.

In 1914 entrants formed 12.3% of the average attendance.

Children born on or before March 31st, 1902, were examined as "leavers," unless they had been examined since attaining the age of 12 years. By examining children aged twelve, ample time is given in which to follow them up and secure treatment, before they leave school, for any defects discovered. The 1,073 "leavers" represent 9.7% of the average attendance.

The number whose examination is required by the Code, that is, the entrants and leavers, was almost 22% of the average attendance.

Children born between 1st April, 1906, and 1st April, 1907, were examined as intermediates, the total was 912, or 8·2% of the average attendance but owing to lack of time it was possible to examine this year in only ten schools out of thirteen. The total number of children inspected at routine examinations was 30·1% of the average attendance.

Following-up.—Immediately after the routine inspection of each department, a list of the children who require treatment is placed upon the following-up register, a copy of which is sent to the Head Teacher ; a following-up card is made out from the register for each child whose name appears thereon, and six weeks afterwards, the Medical Inspector re-examines all the children attending that department for whom a following-up card exists. He takes out of the file the “cured” cases ; and the others, including absentees, are dealt with by the School Nurses who visit the homes. These cases are again brought forward at each re-examination until they are cured or have left school.

Inspection Clinic.—Children who obviously require medical attention and who would not otherwise be examined are presented as “special” cases during the routine visits ; or they may be seen at the Inspection Clinic, at the Town Hall, on Monday, Wednesday, and Thursday, at 4 p.m. and on Saturday at 10 a.m.

Where Examinations are held.—In 1914 the examinations were held in the school buildings except in the cases of St. James’ and St. James’ Select Schools, where no suitable accommodation can be provided for the Medical Inspector. The children from these schools were examined at the Junior Technical School premises, a short distance away.

In nine of the schools the examinations take place in the teachers’ rooms, and in class-rooms in the remaining two. In at least three of the teachers’ rooms the accommodation is unsuitable for the testing of vision, for which good illumination and a room twenty feet long are required. In some schools, the noise from the street or surrounding rooms rendered examination of the chest and hearing rather difficult.

Co-ordination with other Departments.—As the School Medical Officer is also Medical Officer of Health, there is complete co-ordination of school medical work and those other branches of preventive medicine which are carried out by the Local Sanitary Authority.

The cordial co-operation between the Education and Public Health Departments of the Corporation, which has been noted in previous reports, continues.

The School Attendance Department is daily furnished with certificates of children excluded under the provisions of Article 53(b) of the Code. Duplicates of the exclusion certificates and also of notifications of fitness to return to school are sent to the Head Teachers. The Secretary for Education sends particulars of cases of infectious diseases, eczema, ringworm, sore eyes, etc., as soon as they are brought to the notice of the School Attendance Officers ; many of the teachers report these cases directly and thus earlier information is obtained ; all cases notified are visited, and if necessary, excluded. If any doubt exists as to whether a child is unfit to attend school on medical grounds, and a certificate from a medical practitioner is not produced, the child is sent to the Medical Inspector for examination and report.

SCHOOL MEDICAL SERVICE GRANTS.

In March, 1913, a grant from the Board of Education of £140 6s. 0d. was received in aid of expenditure on following-up and medical treatment. In 1914, a grant of one-half the total cost of the School Medical Service including inspection was made and amounted to £273 9s. 0d. In March, 1915, a grant amounting to £307 1s. 10d. was received.

Grants will also now be payable on expenditure in connection with the feeding of school children and in support of schools for mothers and day nurseries. An infant consultation which is an important part of the work of a school for mothers has been established in Bootle by the Ladies' Health Society. The Education Authority have granted them accommodation in the Junior Technical School premises free of charge.

There is no day nursery in Bootle.

I.—MEDICAL INSPECTION.

The following table gives the number of children examined :—

TABLE 1.—NUMBER OF CHILDREN INSPECTED, 1ST JANUARY, 1914,
TO 31ST DECEMBER, 1914.

Age	A—“CODE”						B—Groups other than “CODE”					
	Entrants					Total	Leavers					Grand Total
3	3	4	5	6	Other ages	Total	12	13	14	Total		
Boys	—	—	448	219	54	721	370	157	6	533	1254	Boys
Girls	—	—	418	186	39	643	367	167	6	540	1183	Girls
Totals	—	—	866	405	93	1364	737	324	12	1073	2437	Totals
												912
												1073
												2871

Inspections have been performed in all the departments of every school.

Special Examinations.—The number of children who were presented for special examination was 1,073, compared with 762 in 1913. One hundred and seventy-three were presented by the teachers at school during the course of the routine inspections or re-inspections and 900 were seen at the Town Hall.

The following table shows the number of children who were referred for examination at the Town Hall by :—

Teachers	..	..	..	..	..	..	295	or 32%
School Attendance Officers	..	..	..	..	..	..	200	or 22%
School Nurses	..	..	..	..	..	..	279	or 31%
Parents and Others	..	..	..	..	..	..	126	or 14%

The Inspection Clinic held at the Town Hall increases in usefulness and popularity every year. Nine hundred new cases were seen in 1914 compared with 546 in 1913. If any serious defect is found, the parent is asked to take the child to his or her usual medical attendant : in many cases he is the medical officer of a hospital.

Re-Examinations.—2,871 re-examinations were made; 2,047 were performed at the schools and included the re-examinations of all those routine or special cases for whom a following-up card existed. Eight hundred and twenty-four re-examinations were made at the Town Hall. During 1914 cases of tuberculosis and suspected tuberculosis in school children were periodically examined and treated by the Tuberculosis Officer. They are not included in these figures.

Other Examinations.—Forty-nine children who had been committed to Industrial Schools were examined; also 11 bursars.

Summary.—From the following table, which shows the total number of examinations performed since the inauguration of the work it will be seen that the total number of routine examinations is almost the same as last year. There has been some reduction in the number of re-examinations owing to lack of time consequent upon change in staff.

Year	Routine Inspections	Special Examinations	Re-Examinations	Total
1908	1,565	—	—	1,565
1909	2,550	408	—	2,958
1910	2,049	—	—	2,049
1911	2,920	515	1,119	4,554
1912	3,966	648	3,170	7,784
1913	3,488	762	3,490	7,740
1914	3,349	1,073	2,871	7,293
Total	19,887	3,406	10,650	33,943

Every child in attendance at the Public Elementary Schools should have been examined now at least once.

Attendance of Parents.—The following table gives the number of parents present at the routine examinations:—

	Senior and Junior		Senior and Junior		Total
	Boys	Girls	Infants		
Children examined	1015	..	970	..	3,349
Parents present	456	..	568	..	1,999
Percentage	44.9	..	58.5	..	59.6
Percentage present					
in 1913	33.0	..	46.5	..	53.1

It is gratifying to note that the percentage of parents present at the examinations continues to increase, being 59·6 compared with 53·1 in 1913, 51·8 in 1912, and 49·4 in 1911.

Objections to Examination.—In twelve instances the parents sent written objections to the examination of their children.

Disturbance of School Arrangements by Inspections.—Three days' notice of a routine inspection and one day's notice of a re-examination is sent to the Head Teacher of the department concerned.

I wish to express again my thanks to all the teachers, particularly the head teachers who, with scarcely an exception, have willingly rendered every assistance in their power. A copy of the Annual Report is furnished to each Head Teacher.

At the request of the Education Committee the teachers now make an entry in the school register whenever a child is medically examined for the first time.

Visits to Schools.—205 visits to schools for routine inspections were made by the Medical Inspector. The School Medical Officer or the Medical Inspector paid 24 visits for special examinations and 35 for re-examinations. Eight visits were paid to the Day Industrial School.

Inspection Cards.—The cards are similar to those used in previous years.

MEDICAL HISTORY OF THE CHILDREN INSPECTED.

Of the 1,364 entrants, the following were reported to have suffered from the diseases indicated *before* the commencement of school life.

Measles	..	..	..	..	..	956 or 70	per cent.
Whooping Cough	..	..	..	..	..	616 or 45·1	per cent.
Chickenpox	..	..	..	..	..	399 or 29·2	per cent.
Scarlet Fever	..	..	..	..	..	58 or 4·2	per cent.
Diphtheria	..	..	..	..	..	18 or 1·3	per cent

Of the 1,073 leavers the following were reported to have suffered from the diseases indicated *since* commencing school.

Measles	..	..	..	..	176 or 16·4 per cent.
Whooping Cough	..	..	..	..	133 or 12·3 per cent.
Scarlet Fever	..	..	..	..	99 or 9·2 per cent.
Chickenpox	..	..	..	..	71 or 6·6 per cent.
Diphtheria	..	..	..	..	55 or 5·1 per cent.

Vaccination had not been performed in 133 entrants or 9·7 per cent and 34 leavers or 3·1 per cent showing the increasing tendency during recent years to neglect this means of securing protection from smallpox

GENERAL SUMMARY.

A general summary may now be given of the numbers examined, and the defects found in each of the four groups of children :—

1. Entrants—That is, those usually below the age of seven years who are examined soon after their first entrance to school.
2. Leavers—That is, those aged twelve years or more.
3. Intermediate Age Group.—That is, chiefly those aged seven or eight years.
4. Special Cases—That is, those (not usually included in the above groups) who were presented for examination because of a more or less obvious defect.

ROUTINE CASES.

TABLE II.—RETURN SHOWING

CONDITION OF THE CHILDREN INSPECTED.
SPECIAL CASES.

Totals of Entrants, Leavers, and Intermediates.							
Boys	Girls	Total	%	Boys	Girls	Total	
1736	1613	3349		545	528	1073	Total Inspected.....
1642	1581	3223	96.23	—	—	—	Satisfactory } Clothing
94	32	126	3.76	—	—	—	Unsatisfactory ... }
1557	1512	3069	91.63	—	—	—	Satisfactory } Footgear
179	101	280	8.36	—	—	—	Unsatisfactory ... }
1703	820	2523	75.33	—	—	—	Clean i.e., no nits or pediculi }
32	785	817	24.39	9	11	20	Nits only }
1	8	9	0.26	1	5	6	Pediculi }
1649	1568	3217	96.05	—	—	—	Clean } Cleanliness
51	22	73	2.17	2	4	6	Dirty }
36	23	59	1.76	3	—	3	Pediculi present }
60	52	112	3.34	—	—	—	Excellent }
1603	1522	3125	93.31	—	—	—	Normal }
73	39	112	3.34	5	6	11	Below normal ... }
—	—	—	—	—	—	—	Bad }
214	142	356	10.63	14	13	27	Mouth breathers ... }
177	162	339	10.12	2	4	6	Tonsils: slightly enlarged ... }
72	101	173	5.16	3	3	6	Tonsils: much " ... }
79	58	137	4.09	6	6	12	Adenoids: slight }
36	21	57	1.70	9	4	13	Adenoids: marked }
27	11	38	1.13	5	6	11	Other defects }
1681	1542	3223	96.23	—	—	—	No disease }
31	32	63	1.88	5	10	15	Blepharitis }
14	17	31	0.92	23	42	65	Conjunctivitis ... }
7	14	21	0.62	3	5	8	Corneal Opacity }
3	8	11	0.32	5	8	13	Other Disease ... }
1716	1587	3303	98.62	—	—	—	No disease }
—	2	2	0.05	—	—	—	Obstruction right ... }
—	2	2	0.05	—	—	—	,, left ... }
11	13	24	0.71	10	10	20	Otorrhœa right ... }
11	13	24	0.71	13	12	25	,, left ... }
3	5	8	0.23	—	1	1	Other disease }
263	253	516	15.40	—	—	—	Sound }
785	772	1557	46.49	—	—	—	Less than 4 decayed ... }
688	588	1276	38.10	—	—	—	4 or more decayed ... }
3	4	7	0.20	3	1	4	Sepsis }
1657	1540	3197	95.46	—	—	—	No disease }
8	2	10	0.29	3	4	7	Organic disease }
6	9	15	0.44	—	—	—	Functional " }
63	62	125	3.73	5	7	12	Anæmia }
2	—	2	0.05	—	—	—	Other Defect ... }
1618	1546	3164	94.47	—	—	—	No disease }
98	53	151	4.50	12	10	22	Bronchitis & Catarrh }
2	3	5	0.14	1	3	4	Tuberculosis }
18	11	29	0.86	5	3	8	,, suspected }
—	—	—	—	1	2	3	Other disease }

Condition	Entrants				Leavers				Intermediates Aged 7—8 years.				
	Boys	Girls	Total	%	Boys	Girls	Total	%	Boys	Girls	Total	%	
Nervous System	No disease.....	718	641	1359	99.63	530	540	1070	99.72	481	429	910	99.78
	Epilepsy (Major or Minor)	2	—	2	0.14	1	—	1	0.09	—	—	1	0.10
	Chorea	1	2	3	0.22	1	—	1	0.09	—	—	1	0.10
	Other disease	—	—	—	—	—	—	—	—	—	—	—	—
Skin	No disease.....	698	624	1322	96.92	528	531	1059	98.69	474	423	897	98.35
	Ringworm: Body	—	—	—	—	1	—	1	0.09	—	—	—	—
	Head...	4	1	5	0.36	—	—	—	—	1	—	1	0.10
	Impetigo	9	6	15	1.09	1	1	2	0.18	1	2	3	0.32
	Scabies	—	1	1	0.07	—	1	1	0.09	—	—	—	—
Rickets	No disease.....	707	635	1342	98.38	533	539	1072	99.90	474	427	901	98.79
	Slight.....	11	6	17	1.23	—	1	1	0.09	8	3	11	1.20
	Marked	3	2	5	0.36	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—
Deformities	No deformity	712	635	1347	98.75	527	537	1064	99.16	474	427	901	98.79
	Deformity present	9	8	17	1.23	6	3	9	0.83	8	3	11	1.20
Tuberculosis	No disease...	721	642	1363	99.92	531	538	1069	99.62	478	430	908	99.56
	Glandular ...	—	—	—	—	1	2	3	0.27	3	—	3	0.32
	Non-Pulmonary	—	—	—	—	—	—	—	—	—	—	—	—
	Bones and joints.....	—	—	—	—	1	—	1	0.09	—	—	—	—
Speech	Other forms	—	1	1	0.07	—	—	—	—	1	—	1	0.10
	Not defective.....	694	626	1320	96.77	524	534	1058	98.60	470	416	886	97.14
	Defective articulation	21	14	35	2.56	4	5	9	0.83	7	12	19	2.08
	Stammering	6	3	9	0.65	5	1	6	0.55	5	2	7	0.76
Mental Condition	Normal	—	—	—	—	527	532	1059	98.69	467	425	892	97.80
	Dull or backward	1	2	3	0.22	6	6	12	1.11	14	4	18	1.97
	Mentally defect. (all grades)	1	1	2	0.14	—	2	2	0.18	1	1	2	0.21
Vision	6/6 each eye (Normal Vision)*	20	8	28	—	298	270	568	52.93	210	169	379	—
	(See page 33.)	—	—	—	—	—	—	—	—	—	—	—	—
Squint.....	49	19	68	4.98	12	9	21	1.95	24	15	39	4.27	—
Hearing (Whisper) 20 feet each ear (normal hearing)	676	618	1294	94.86	486	501	987	91.98	433	375	808	88.59	—
20 feet R.....	679	620	1299	95.23	495	510	1005	93.66	442	381	823	90.24	—
L.....	677	619	1296	95.01	498	505	1003	93.47	444	381	825	90.46	—
10 feet R.....	38	21	59	4.32	27	19	46	4.28	29	31	60	6.57	—
L.....	40	22	62	4.54	26	23	49	4.56	27	35	62	6.79	—
5 feet R.....	4	2	6	0.43	11	11	22	2.05	11	18	29	3.17	—
L.....	4	2	6	0.43	9	12	21	1.95	11	14	25	2.75	—
Deaf	—	—	—	—	—	—	—	—	—	—	—	—	—

* The mental condition and vision of most of the entrants was not reported upon.

Totals of Entrants, Leavers, and
Intermediates.

SPECIAL CASES.

Boys	Girls	Total	%	Boys	Girls	Total	Condition
1729 3	1610 —	3339 3	99.71 0.08	— 3	— 4	— 7	No disease
1 3	1 2	2 5	0.05 0.14	6 1	5 2	11 3	Epilepsy major or minor.....
1700 1 5 11 — 19	1578 — 1 6 23	3278 1 6 20 42	97.87 0.02 0.17 0.59 1.25	— 12 26 62 39	— 17 27 89 31	— 29 53 151 70	Chorea
1714 19 3	1601 10 2	3315 29 5	98.98 0.86 0.14	— — 2	— — 5	— — 7	Other disease
1713 23	1599 14	3312 37	98.89 1.10	— 4	— 3	— 7	No disease
1730 4	1610 2	3340 6	99.73 0.17	— —	— 1	— 1	Slight
1 1	— 1	1 2	0.02 0.05	3 1	3 —	6 1	Marked
1688 32	1576 31	3264 63	97.46 1.88	— 3	— 2	— 5	No deformity
16	6	22	0.65	1	—	1	Deformity present
994 20 1	957 10 3	1951 30 4	98.28† 1.52 0.20	— 2 14	— — 5	— 2 19	Normal
528	447	975‡	48.87‡	—	—	—	Dull or backward... Mentally defective... (all grades)
85	43	128	3.82	15	11	26	6/6 each eye (Normal Vision)
1595 1616 1619 94 93 26 24	1494 1511 1505 71 80 31 28	3089 3127 3124 165 173 57 52	92.23 93.37 93.28 4.92 5.16 1.70 1.55	— — — 1 1 3 3	— — — — — 4 4	— — — 1 1 7 7	See page 33.) Squint
1595 1616 1619 94 93 26 24	1494 1511 1505 71 80 31 28	3089 3127 3124 165 173 57 52	92.23 93.37 93.28 4.92 5.16 1.70 1.55	— — — 1 1 3 3	— — — — — 4 4	— — — 1 1 7 7	Hearing (Whisper) 20 feet each ear (normal hearing) 20 feet R..... L..... 10 feet R..... L..... 5 feet R..... L..... Deaf

† These figures relate to leavers and intermediates only.

‡ These figures relate to those whose vision was examined.

The number with any physical defect reaches the large percentage of 66.5, but this compares with 67.7 in 1913. The more important percentages of physical defects are 3.3% (4.2%) ill-nourished ; 10.6% (14.0%) mouth-breathers ; 15.2% (15%) enlarged tonsils ; 5.7% (7.0%) adenoids ; 38.1% (29.0%) four or more carious teeth ; 0.29% (0.4%) organic heart disease ; 3.7% (6.8%) anaemia ; 1.24% (1.46%) tuberculosis or suspected tuberculosis ; 22.1% (21.3%) defective vision ; and 3.8% (3.7%) squint. (The figures placed in brackets are the corresponding percentages for the year 1913).

It is to be noted that many children suffer from more than one defect. The percentage where there was no adverse mark on the Inspection Schedule either for physical defect or for uncleanliness or insufficiency of clothing or footwear was 21.3 compared with 23.6 in 1913. The percentage placed upon the following-up register indicates the number of children for whom treatment in some form should be obtained, or who should be kept under observation. The names of 34.9% of the infants compared with 29% in 1913, 37.6% of the senior and junior boys compared with 41.9%, and 37.8% of the senior and junior girls compared with 42.3% were placed upon the register ; the total percentage being 36.6, this compares with 35.7% in 1913 and 44.6% in 1912.

Amongst those referred for special examination were 124 children in whom no physical defect, or a trivial one only, could be found. This large number is accounted for to some extent by the increased number of children who were sent by the School Attendance Officers. In many of the cases, the children were kept at home on the ground of ill-health, but no medical certificate was presented in support of this, and the point as to whether the child was fit to attend school or not was settled by the medical inspector after examining the child as a special case.

The next table (page 19) gives the number examined in each department, the number and percentage with physical defects and the number of parents present. Undue importance is not to be attached to the percentage of defective children in each department, as many are based on small numbers.

School.	Infants.				Boys				Girls.				No. of Special Cases pres- ented
	No. examined		% with physical defects	No. of parents present	No. examined		% with physical defects	No. of parents present	No. examined		% with physical defects	No. of parents present	
	No. examined	% with physical defects	No. of parents present	No. examined	% with physical defects	No. of parents present	No. examined	% with physical defects	No. examined	% with physical defects	No. of parents present	No. of parents present	
St. Mary's	81	57	70.3	57	95	52	54.7	27	77	45	58.4	47	92
Bedford Road	125	83	66.4	92	133	103	77.4	65	126	84	66.6	76	62
Christ Church	90	56	62.2	67	65	24	36.8	28	72	54	70.3	38	51
Gray Street	176	119	67.6	135	99	55	55.5	59	126	88	69.8	85	62
Hawthorne Road ..	114	67	58.7	84	42	29	69.0	14	48	27	56.2	19	62
Linacre	107	80	74.7	81	123	88	71.5	84	104	71	68.2	74	33
St. James'	130	65	50.0	82	88	59	67.0	21	100	70	70.0	37	190
St. James' Select ..	2	1	50.0	2	45	33	73.3	14	44	27	61.3	16	39
St. John's	85	59	69.4	52	22	14	63.6	5	22	13	59.0	13	89
St. Winefride's	113	70	61.9	89	85	57	67.0	51	63	44	69.8	51	69
Salisbury Road	147	104	70.7	87	132	95	71.9	62	126	96	76.1	83	180
Orrell	93	60	64.5	68	68	46	67.6	16	46	33	71.7	20	75
Balliol	101	69	68.3	79	18	10	55.5	10	16	10	62.5	9	10
Others	—	—	—	—	—	—	—	—	—	—	—	—	59
Totals	1364	890	65.2	975	1015	665	65.5	456	970	662	68.2	568	1073

Irregular Attenders.—During 1914, 86 children were absent, on medical grounds, for more than six months : particulars of these cases are kept in the “ Chronic Sickness ” Register. The commonest causes were :—Ringworm of the Scalp, 14 cases ; Rheumatic fever, St. Vitus’ Dance or Heart Disease, 4 ; Phthisis, 40 ; Other forms of Tuberculosis or Suspected Tuberculosis, 20 ; Eye Diseases, 5.

Exclusion of Sick Children.—2,162 children were excluded by the School Medical Officer during the year in accordance with the provisions of Article 53 (b) of the Code.

The following table gives particulars of the 2,014 children who had returned before the end of the year, and of 47 (of the 74 excluded in 1913), who returned to school during the course of the year 1914 (leaving 27 excluded during 1913 still absent at the end of the year 1914). In addition, 148 children excluded during 1914 were still absent on the 1st of January, 1915, making a total of 175 excluded on the 1st of January, 1915.

Disease.			No. excluded.		Total No. of days excluded.		Average No. of days excluded.	
Scarlet Fever	..	Paticnts ..	99	..	3,602	..	36·4	
Do.	..	Contacts ..	153	..	1,736	..	11·34	
Diphtheria	..	Patients ..	16	..	578	..	36·1	
Do.	..	Contacts ..	51	..	481	..	9·4	
Enteric Fever	..	Patient ..	1	..	103	..	103	
Do.	..	Contacts ..	10	..	85	..	8·5	
Measles	Patients ..	403	..	5,312	..	13·18
Do.	Contacts ..	182	..	2,098	..	11·53
Whooping Cough	..	Patients ..	49	..	873	..	17·82	
Do.	..	Contacts ..	19	..	298	..	15·7	
Chickenpox	..	Patients ..	151	..	1,993	..	13·2	
Do.	..	Contacts ..	62	..	653	..	10·5	
Mumps	Patients ..	296	..	3,108	..	10·5
Ringworm	..	(Head) ..	88	..	5,827	..	66·2	
Do.	..	(Body) ..	13	..	147	..	11·3	
Phthisis	31	..	2,293	..	73·96
Anæmia	4	..	99	..	24·75
General Debility (including suspected tuberculosis)	..	..	30	..	1,272	..	42·4
Conjunctivitis	..	..	48	..	338	..	7·04
Corneal Disease	..	..	3	..	35	..	11·6
Bronchitis	..	..	10	..	72	..	7·2
Scabies	..	..	30	..	719	..	23·96
Eczema	..	..	117	..	1,288	..	11·0
Impetigo	..	..	66	..	482	..	7·3
Rheumatism	..	..	4	..	121	..	30·2
Chorea	..	..	12	..	617	..	51·4
Otorrhœa	..	..	8	..	73	..	9·1
Blepharitis	..	..	5	..	65	..	13·0
Rickets	..	..	5	..	60	..	12·0
Other Diseases	..	..	95	..	2,448	..	25·77
Totals	..	..	2,061	..	36,876	..	17·89

The number of days of absence includes only days upon which the schools were open.

The exclusion system is now practically complete for cases of Infectious Disease, but in other diseases the formal exclusions relate to a certain proportion only of all children absent through sickness. An exclusion certificate is issued only in respect of a child who has been seen by a member of the school medical staff, or in the case of infectious diseases, by a Lady Health Visitor, but quite a number of the absentees are given medical certificates to excuse them from school by their private doctors.

All the children who are excluded from school, are kept under supervision, and an endeavour is made to secure appropriate treatment, so that they may return to school at the earliest possible date.

HEIGHT AND WEIGHT.

There is a weighing machine and height measurer in each school.

The following table gives the average height and weight of the children inspected at the routine examinations distributed according to age and sex and also the height-weight ratio expressed as the number of grammes for each centimetre of height. In all cases the children were weighed and measured without boots. The boys were weighed after their coats had been removed.

BOYS.

Age last birthday.	No. examined.	Height (in Centimetres.*)			Weight (in Kilograms†).			Height Weight Ratio.
		Anthro-pometric standard	Average height of Bootle Children.	Index No. taking standard as 100.	Anthro-pometric standard.	Average weight of Bootle Children.	Index No. taking standard as 100	
5	448	103.3	105.7	102.3	17.4	17.7	101.7	167
6	219	109.2	106.9	97.8	19.1	18.5	96.8	173
7	402	114.3	114.8	100.4	21.1	20.9	99.0	182
8	109	120.3	117.6	97.7	23.5	23.7	100.8	202
12	370	139.7	135.5	97.0	33.1	31.7	95.7	233
13	157	142.2	136.5	95.9	35.0	32.8	93.7	240

*1 centimetre = 0.39 inch.

†1 Kilogram = 2.2 lbs.

GIRLS.

Age last birthday	No. exam- ined.	Height in Centimetres*			Weight in Kilograms†.			Height Weight Ratio.
		Anthro- pomet- ric standard.	Average height of Bootle Children	Index No. taking standard as 100.	Anthro- pomet- ric standard.	Average weight of Bootle Children	Index No. taking standard as 100.	
5	418	102.6	101.1	98.5	17.0	17.1	100.5	169
6	186	108.2	106.2	98.1	18.5	18.3	98.9	172
7	324	113.2	116.1	102.5	20.4	21.2	103.9	182
8	115	119.3	116.8	97.9	22.5	21.8	96.8	186
12	367	141.2	137.7	97.5	33.5	31.5	94.0	228
13	167	144.7	141.9	98.0	36.4	34.4	94.5	242

* 1 centimetre = 0.39 inch.

† Kilogram = 2.2 lbs.

The standards taken are those prepared by Mr. Arthur Greenwood, after analysing the statistics relating to over 800,000 British children. The figures at three ages, namely, 5, 7, and 12 years, are emphasised in the table by large type because they represent in each case a large number of units and the averages are hence a fairly reliable indication of the stature and weight of all Bootle children of those ages. As was shown by last year's figures, Bootle boys aged 5 years are above the average in both height and weight, but by the time they have reached 12 years of age they are considerably below the average in both. The figures for 7 years of age show that even at this age the same tendency is in operation, the height is just above the normal whilst the weight is 1% below. In the case of the girls also, there is a marked departure from the standard *weight* at age 12 when it is 6% below the normal; at age 5 it is just above the normal, and at age 7 it is, curiously, 3.9% above the standard.

Mal-Nutrition.—The nutrition of 3.34% of the children was recorded as excellent, 93.3% were regarded as normal and 3.34% as ill-nourished.

During 1914 Dr. Milligan completed a thesis on the subject of "Mal-nutrition in School Children." After giving figures showing that children in the schools attended by those of lowest social scale (as judged by the percentage with insufficient clothing and footwear) are smaller and lighter than those attending better class schools, he states:—

"Taking the results of the enquiry as a whole, one cannot fail to conclude that bad social environment must be a powerful factor in the pro-

duction of malnutrition. The results also agree with what one would naturally expect. It must be remembered that the comparisons are not made between two extremes of the social scale. All the children attend the ordinary elementary schools and practically all are in very modest circumstances."

It is also demonstrated that the difference between the two classes of schools tends to disappear at the higher age groups owing principally to a marked fall from the standards on the part of the better class children who are aged 12 and 13 years of age. On further considering the problem of poverty Dr. Milligan says :—

" Granted that ' poor ' children are physically inferior to those more fortunately situated it becomes necessary to inquire which are the elements in their condition which contribute to the result. Taking first disease conditions, the past history of all children with respect to the common infectious diseases is known and if we presume the great debilitating effect of such diseases as measles and whooping cough it would be interesting to compare their frequency in the group of 489 ' poor ' children with that amongst all Bootle children. It is found to be practically the same in both groups. Measles shows a higher incidence and whooping cough a lower one amongst the poor children but the differences are small and probably accidental. A comparison of the number with adenoids shows the ' poor ' children to advantage. The condition of the teeth of poor and better class children has given rise to controversy. Comparing again ' poor ' children with all Bootle children and dividing them into groups with good teeth and those with four or more bad teeth, ' poor ' children again show to advantage in both aspects. In passing it may be mentioned that the number of mentally backward children was much greater amongst the ' poor ' than amongst the other children. It is thus evident that none of the factors here noted contribute in any degree to the deficiencies of the ' poor ' children, which undoubtedly depend on the broader question of home conditions, principally food and housing."

The effect of adenoids on mal-nutrition is conclusively shown in Dr. Milligan's thesis. The following table shows that, taking the height and weight of all Bootle children as 100, adenoids at the age of 5 years have not markedly affected the height and weight but at the age group 12-13 years the height is diminished by 2·1% and the weight by 6%.

Ages.	HEIGHT.		WEIGHT.	
	All Bootle Children.	Those with Adenoids.	All Bootle Children.	Those with Adenoids.
5 and 6 ..	100 ..	99·7	100 ..	100·7
7-10 ..	100 ..	97·7	100 ..	96·6
12-13 ..	100 ..	97·9	100 ..	94·0

The conclusions reached are :—

- “ 1. That what has been called the ‘ social ’ factor is the predominant element in the production of mal-nutrition.
- 2. That insufficient or unsuitable food is the chief means by which this result is produced.
- 3. That employment out of school hours is not a prolific cause of mal-nutrition, though certain phases of such employment, probably such as interfere with sleep, have evil effect.
- 4. That adenoids after long persistence do cause distinct evil consequences in children in later years.
- 5. That tuberculosis is a potent cause of mal-nutrition but that the extent of this condition in children of school age is probably over-estimated.
- 6. That the effects of decayed teeth *per se* are not at present capable of precise estimation.”

During the year the following leaflet was drawn up in which a few important points relating to the feeding of school children are set out for the benefit of the mothers of ill-nourished children.

BOOTLE EDUCATION COMMITTEE.

FEEDING OF SCHOOL CHILDREN.

Parents are requested to note carefully the following suggestions with regard to the diet of their children :—

FOODS SUITABLE FOR CHILDREN.

Milk, Soups, Bread, Butter or Margarine, small quantities of Meat and Cheeses, Stews, Eggs, Vegetables, Potatoes, Oatmeal, Fish and Fruits.

ARTICLES TO AVOID.

Tea, except in great moderation and very weak, or well diluted with milk. Tinned Foods and Pastries, Pickled Foods and Condiments such as Mustard, Sauces, etc. Cheap Sweets, Cheap Sausages and Brawn. Alcoholic Beverages.

A SAMPLE DAY'S DIETARY.

Breakfast.—8 a.m. Oatmeal porridge with Milk and Sugar or Syrup. Bread (not fresh) and Butter (or Margarine or Dripping).

Children frequently are said to be unable to take breakfast. This is often due to sleeping in close rooms, and can be avoided by keeping bedroom windows wide open and by going out into the open air, even for a few minutes, before breakfast.

Dinner. 12.15 p.m. (a) Soup made from Bones or Meat, and containing Suet Balls, Peas, Beans, Lentils, or other Vegetables, together with Bread.

Rice, Semolina or similar Pudding, Stewed Fruit (Apples, etc.) or

(b) Stewed Beef with Potatoes, Beans, and unpolished Boiled Rice (as a Vegetable) ; Bread Pudding, or

(c) Fish (e.g., Herring, Haddock) with Potatoes and Bread Sauces ; Cornflour Mould with Jam, or

(d) Boiled Bacon, Beans and Potatoes ; Rice Pudding with Currants or Sultanas.

Water is the best beverage.

Tea. 4.15 p.m. Tea well diluted with Milk, or Milk alone, with Bread and Butter and Jam or Cheese.

Supper. 6.45–7.45 p.m. Supper should be light and consist of Milk with Bread and Butter.

When the above model Day's Dietary has been appreciated, variety may easily be introduced.

Eggs, Cheese, and other similar articles may be substituted for the articles mentioned above. Some form of Meat (or Eggs or Cheese) should be given every day.

PARTICULARLY TO BE AVOIDED, ARE CONSTANT MEALS OF TEA WITH BREAD AND BUTTER AND JAM.

Cocoa, though somewhat dearer, is better than Tea.

Cold Meats or "Porkshop Dinners" should not be substituted for Hot Dinners, such as Soup, Hot-Pot, etc.

TO PREVENT DECAY, THE TEETH MUST BE CLEANED AFTER EVERY MEAL.

By following these suggestions, endless trouble will be avoided in the form of poor health, and the plan will not be more costly.

CLEANLINESS AND CONDITION OF THE SKIN.

An analysis of the records of the routine inspections shows that under the heading "Cleanliness or otherwise of the body," 96% of the children were recorded as "clean"; 2.09% were "somewhat dirty"; 0.08% were "dirty"; and 1.76% were "flea-bitten." On examining the heads, nits were seen on 19 infant boys, or 2.6% of those examined, and on 228 infant girls or 35.47%; of the leavers, 0.5% of the boys had nits in their hair and 60.9% of the girls.

Emphasis must again be laid upon the large number of children with dirty heads: taking all the girls examined, 49.1% were dirty. The plaiting of the children's hair is now compulsory in many secondary schools; it is a pity that it cannot be made so in the elementary ones, but even there much can be done by a teacher who presses the matter.

In one senior girls' department a school nurse examined every child in attendance. Of 215 inspected at the first examination, 148 had dirty heads; notices were sent to the parents; and a re-examination of all those found dirty at the first examination, and of those previously absent, took place a week later, when every child of the 156 examined was dirty, and in the 148 previously seen practically no effort had been made by the parents to cleanse them. Another notice was sent and some of the parents evidently then realized that we "meant business," as a week later, of 151 examined, all of whom were previously dirty, 18 were reported to be clean, and there was improvement in many of the others. Yet

another noticee was sent concerning the 133 still dirty and a fourth examination took place a week later. The number of children then dirty was 119.

The process took seven half-days of the nurse's time and the net result was a reduction in the number with dirty heads, in that department of some 230 girls, from 156 to 119. The difference in the degree of uncleanliness between the second and fourth examinations may be expressed in the form of a table.

	"Nits Numerous"	"Nits"	"A few Nits"	Total Number
Second examination	15 ..	54 ..	87 ..	156
Fourth examination	10 ..	20 ..	89 ..	119

At the fourth examination the cleanliness of the body and underclothing had greatly improved. It will be realized from these figures that a large expenditure of time produces but a small result and a greatly increased staff of nurses will be required before any appreciable improvement upon the present state of uncleanliness will be obtained. In the department in which the experiment was tried each of the 10 cases in which after four examinations the nits were numerous should have been visited at home : it is found that several visits are necessary in these bad cases before the children become really clean. The Children Act might be brought into operation in those cases where the person and clothing of the child are infected with vermin or are in a foul and filthy condition, but the serving of the notices on the parent personally and the cumbrous nature of the subsequent procedure render it an impracticable method of dealing with any except isolated cases in which the child is filthy and very neglected. Other departments will be examined as opportunity offers ; probably the most good for the least expenditure of time will be to deal only with the "nits numerous" class and follow these up at home.

In some towns the matter is dealt with by the establishment of shower baths, and facilities for cleansing, in the public elementary schools ; the experience of the Day Industrial School, where ample facilities for cleansing existed, and were regularly used, was that children from the worst surroundings were kept cleaner than those in our best ordinary schools where such facilities are absent. By allowing the use of the cleansing station for all who cared to avail themselves of it, the case would be met of the mother who says she is trying her best to get rid of the nits, but cannot manage it with the means at her disposal.

Children Act, Section 122.—Under this Section 21 children only were dealt with. Eight were reported from St. John's School, 5 from St. James' (Junior Department), 4 from St. Mary's, and 1 each from Salisbury Road, Bedford Road, Linaerc and Hawthorne Road Schools. The statutory notice requiring the child to be cleansed within twenty-four hours was served in 11 instances. Twenty-one first notices had been received from the teachers, but in 10 the children had been cleansed before inspection by the school nurse. All eleven children were satisfactorily cleansed by their parents as a result of a single notice. Subsequently, in two cases, a second notice was received from the Head Teacher ; one of the children was properly cleansed by his parents under the supervision of the school nurse and the other was cleansed at the Day Industrial School.

In a few instances, children who had been cleansed at the cleansing station in former years, became dirty again, but for various reasons no prosecution was undertaken by the Education Authority this year.

FOOTWEAR AND CLOTHING.

Footwear.—87·5% of the children inspected at the routine examinations wore satisfactory boots or shoes and 4·1% wore clogs. The footwear of 5·2% was in need of repair and just over 3% of the children were barefooted. Boots were regarded as in need of repair when their condition was such that the child's feet would easily become soaked in wet weather and so militate against its health. During the year the School Canteen Committee supplied 843 pairs of clogs and 350 pairs of stockings to necessitous cases. About 100 pairs of the clogs supplied were paid for, at the rate of 2s. per pair (slightly below cost price), by the scholars of the Hawthorne Road Council School where there is a Clog Club and a Care Committee.

Clothing.—At the routine inspections 96·2% of the children were adequately clad. In 3·6% the clothing was said to be "Fair," and in only 4 cases, or 0·1% was the clothing insufficient.

SKIN DISEASES.

Sixty-four cases of skin diseases, excluding ringworm, were noted at the routine examinations: these include 20 of impetigo and 2 of

scabies. Among those specially examined there were 151 cases of impetigo, 21 of scabies, 4 of alopecia, 3 of psoriasis, 2 of urticaria, 1 of herpes; 11 were suffering from boils and 17 from septic sores.

RINGWORM.

Six cases of ringworm of the scalp, and one of the body, were seen at the routine inspections, and 82 namely, 29 of the body and 53 of the scalp, at special examinations. Six of the scalp cases attended the same senior girls' department and in two other departments there were four cases each; except for these no department had more than three cases. All the children were excluded from school, and in the case of scalp disease, often a very prolonged absence was necessary. The teachers are particularly requested not to re-admit cases of ringworm until they have been certified to be free from infection.

EXTERNAL EYE DISEASES.

The number of children found to be suffering from external eye diseases was 126 at the routine examinations, and 101 amongst the special cases. The routine cases included 63 of blepharitis, 31 conjunctivitis and 21 of corneal opacities. Sixty-five cases of conjunctivitis were seen as special cases.

The number of children seen at the Ophthalmic Clinic in the course of the year was 830 (including 165 under treatment at the end of 1913).

The following table gives the number of cases of eye disease amongst these 830 children.

Eye Disease				Discharged after appropriate treatment.		Under Treatment.
Blepharitis	..	..	..	13	..	12
Chronic Conjunctivitis	..	..	..	9	..	2
Follicular	,,	..	..	7	..	2
Catarrhal	,,	..	..	20	..	13
Phlyctenular	,,	..	..	7	..	14
Nebulae	..	..	..	4	..	2
Interstitial Keratitis	..	..	..	2	..	1
Marginal	,,	..	..	6	..	3
Corneal Ulceration	..	..	..	11	..	10
Trachoma	..	..	..	—	..	2
Coloboma of upper lid	..	..	..	1	..	—
Traumatic cataract	..	..	..	2	..	—
Abrasion of lower lid	..	..	..	2	..	—
Anterior polar cataract	..	..	..	2	..	—
Accident	..	..	..	2	..	—
				88		61

In all cases of disease of the cornea, there is need for early and efficient treatment, lest the cornea should become scarred and cause permanent loss of sight which cannot be remedied by the use of spectacles. These should be referred by the teachers to the Inspection Clinic at the first sign of inflammation.

SQUINT AND MUSCULAR DEFECTS.

One hundred and twenty-eight cases of squint were reported at routine examinations or 3·8 of those inspected. There were 26 amongst the special cases. All such cases should be immediately referred for examination, as there is great danger of blindness occurring in the affected eye, unless special treatment is undergone.

VISION.

The vision of all the routine cases who were familiar with letters was examined by Snellen's types. Each eye was tested separately. The following tables give the results of the examinations. The upper figure is the distance in metres between the children and the test type. The lower figure is the number of metres from which letters of a certain size should be seen by a person with average vision, i.e., 6/6 ; 6/18 means that the smallest type which can be seen from a distance of 6 metres should normally be seen at a distance of 18 metres.

TABLE SHOWING SEPARATELY THE VISION IN EACH EYE.
ROUTINE CASES.

SPECIAL CASES

No. examined	Entrants				Leavers				Intermediates				Grand Totals				% of total number examined.		
	Boys	Girls	$\frac{1}{2}$ to 6	%	Boys	Girls	Totals	%	Boys	Girls	Totals	%	Boys	Girls	Totals	Boys	Girls	Total	
6/6 each eye normal	33	25	58	—	533	540	1073	—	462	402	864	—	1028	967	1995	—	—	—	
6/12 or worse in either eye.	20	8	28	48.27	298	270	568	52.93	210	169	379	43.86	528	447	975	48.87	29.11	6/12 or worse in either eye	
6/6 R	3	6	9	15	51	117	115	232	21.62	101	99	200	23.14	221	220	441	22.11	13.16	
6/6 L	21	14	35	60.34	344	311	655	61.04	234	191	425	49.18	599	516	1115	55.88	33.26	6/6 R	
6/9 R	9	6	13	22.41	95	124	219	20.41	134	115	249	28.81	238	243	481	24.11	14.36	6/9 R	
6/9 L	8	14	24.13	94	125	219	20.41	128	115	243	28.12	231	246	477	23.90	14.24	14.24 L		
6/12 R	2	1	3	5.17	32	36	68	6.33	36	38	74	8.56	70	75	145	7.26	4.32	6/12 R	
6/12 L	3	3	6	10.34	32	28	60	5.5	44	45	89	10.30	79	76	155	7.76	4.62	6/12 L	
6/18 R	—	1	1	1.72	32	38	70	6.52	36	41	.77	8.91	68	80	148	7.41	4.41	6/18 R	
6/18 L	—	1	1	1.72	27	31	58	5.40	33	33	.66	7.63	57	65	122	6.11	3.64	10.10 L	
6/24 R	—	5	5	8.62	14	12	26	2.42	10	9	19	2.19	24	26	50	2.50	1.49	6/24 R	
6/24 L	—	4	4	6.89	18	17	35	3.26	10	7	17	1.96	28	28	56	2.80	1.67	7.7 L	
6/36 R	1	—	1	1.72	7	11	18	1.67	9	7	16	1.85	18	18	36	1.80	1.07	6/36 R	
6/36 L	1	—	1	1.72	11	14	25	2.32	8	5	13	1.50	18	19	37	1.85	1.10	5.5 L	
6/60 R	—	—	—	—	1	5	6	0.55	2	—	2	0.23	3	5	8	0.40	0.23	6/60 R	
6/60 L	—	—	—	—	4	3	7	0.65	1	1	2	0.23	5	4	9	0.45	0.26	1.1 L	
Light R only	—	—	—	—	—	8	2	10	0.93	—	—	—	8	2	10	0.50	0.29	Light R only L	
Blind R	—	—	—	—	—	7	4	11	1.02	2	1	3	0.34	9	5	14	0.70	0.41	2.3
Blind L	—	—	—	—	—	—	—	—	—	1	1	0.09	1	1	2	0.23	1	2	
															3	0.15	0.08	Blind R, L	
															—	—	—	—	

The percentage of leaving boys whose vision was normal was 56.4; the percentage of girls 50.8.

In 64 special cases the vision was so defective that spectacles were necessary.

One hundred and twenty-three of the routine cases were wearing spectacles at the time of examination.

As a general rule, if 6/12 could not be read with each eye separately, the parent was asked to take the child to a private doctor, or to the Ophthalmic Clinic, and have the eyes tested. In some cases, where symptoms of eye-strain were present, children with a less defect than the above-mentioned were recommended to seek treatment. All cases of squint receive similar advice, the urgency of the matter being impressed on the parents.

Until November 16th, cases of defective vision were further examined and, if necessary, spectacles prescribed at the School Children's Ophthalmic Clinic of the Borough Hospital. After that date, the Clinic was held in the basement of the Town Hall. The Authority were fortunate enough to secure as their Ophthalmic Surgeon, Mr. Harcourt, F.R.C.S., who had been in charge of the Clinic when it was held at the Hospital. During the year 830 children attended and the number of visits paid by them was 2,380. Before the end of the year, spectacles had been prescribed, or the appropriate treatment given, for 586. Of the 830 cases, 165 were under treatment on the 1st January, 1914, and 665 came for examination during the year: 298 were referred from the routine inspections and 367 attended of their own accord or were sent after special examination.

The following table gives the nature of the defects found:—

Eye Disease	Discharged after appropriate treatment.					Under treatment, Dec. 31st, 1914.	
	61
Emmetropia	2	..	—
Simple Hypermetropia	108	..	29
„ Hypermetropic Astigmatism	86	..	33
Compound „ „	173	..	50
Mixed Astigmatism	32	..	19
Myopia	44	..	10
Advanced Myopia	8	..	—
Simple Myopic Astigmatism	15	..	5
Compound „ „	22	..	3
Nystagmus	3	..	1
Odd Eyes	5	..	1
Awaiting further examination	—	32
Totals	586	..	244

105 cases of internal squint are included in the table ; all were suffering from a varying degree of hypermetropia : in 74 glasses have been obtained. There were three cases of external, and one of alternating squint. In 195 of the children, the error of refraction was over 5 dioptres (a very serious amount). In 157 of these the appropriate glasses had been obtained before the end of the year. In many of these cases, normal vision cannot be attained even when spectacles are worn.

TEETH.

The following table shows the results of the routine examinations :—

BOYS.

GIRLS.

Age.	Number Inspected.	Number with decaying teeth.		Percent ages with unsound teeth.	Number Inspected.	Number with decaying teeth.		Percent ages with unsound teeth.
		Four or more.	Less than four.			Four or more.	Less than four.	
5	448	210	163	83.2	418	165	174	81.1
6	219	98	82	82.1	186	78	82	86.0
7	402	178	164	85.0	324	138	141	86.1
8	109	48	49	88.9	115	58	46	90.4
12	370	103	216	86.2	367	100	221	87.4
13	157	34	99	84.7	167	42	90	79.0
Total of all routine in- spections..		1736	688	785	84.8	1613	588	772
Percent- ages		39.6	45.2			36.4	47.8	

The condition of the teeth continues to be very unsatisfactory, as is shown by the percentages with sound teeth for the past four years, which are given in the next table.

PERCENTAGES WITH SOUND TEETH.

	Entrants	Intermediates	Leavers	Total
1914	..	16.6	14.1	15.4
1913	..	24.4	13.3	20.4
1912	..	29.0	14.9	21.5
1911	..	24.8	9.4	19.0

Dr. Milligan has shown that children in poor schools have better teeth than those in better class schools ; this occurs especially in infants' departments. His results also show that poor children retain their temporary teeth in good condition for a longer period than do those more happily situated.

A certain number of children are now found to be using tooth-brushes fairly regularly, but this, though a marked improvement, is alone not sufficient to preserve the teeth ; the suitability of the diet and the arrest of decay of the teeth at its onset, being not less important. There was

again no evidence of repair work being done to decayed teeth, and when one remembers the cost to the parents of such repair work (in the absence of a Dental Clinic) the hopelessness of suggesting such treatment is apparent. The far-seeing effects of carious teeth, which undermine health in many insidious ways, make it imperative that treatment should be provided if the physique of the next generation is to be good.

NOSE.

Thirty-eight defects were reported at routine examinations. The majority were cases of nasal discharge, associated with adenoids, and enlargement of the turbinals.

ADENOIDS, MOUTH-BREATHERS, ENLARGED TONSILS.

At the routine inspections 5·7% had symptoms of adenoids and in 1·7% these were well-marked; 10·6% were mouth-breathers. 15·2% had enlarged tonsils; in 5·1% of the total examined, the enlargement was more than trifling.

The following table gives particulars of these cases:—

Age	Number examined	Adenoids.				Mouth Breathers	Percent age.	Tonsils.			% with Enlarged Tonsils.
		Small amount	Definite	Marked Operation required	% with Adenoids			Slightly Enlarged	Much Enlarged	Very much Enlarged	
5	866	29	14	6	5·6	91	10·5	76	30	12	13·6
6	405	25	7	3	8·6	54	13·3	42	17	4	15·5
7	726	34	5	5	6·0	79	10·8	95	22	8	17·2
8	224	7	3	1	4·9	28	12·5	28	19	2	21·8
12	737	21	7	3	4·2	64	8·6	70	29	9	14·6
13	324	19	1	2	6·7	31	9·5	23	15	5	13·2
Total examined at all ages	3349	137	37	20	5·7	356	10·63	339	133	40	15·2
Percentage		4·0	1·1	0·6				10·1	3·9	1·1	

In addition to the above, 12 cases of enlarged tonsils, 11 of acute tonsillitis, 25 of adenoids, and 27 mouth-breathers, were seen at the special examinations.

Most of the 5.7% suffering from adenoids are also included in the 10.6% who are mouth-breathers.

The effect of the presence of adenoids on the general physical condition of a child and also the mental effects are now well recognised. The effects of adenoids upon nutrition are shown on page 24. A large number of infants do not know how to blow the nose properly: this induces a habit of mouth-breathing which most probably predisposes to adenoids.

ENLARGED GLANDS.

Some enlargement of the glands of the neck is common, but it is rare to find marked enlargement. In 6.2% of the children, the submaxillary lymphatic glands were slightly enlarged, and in 0.1% the enlargement was readily visible or palpable. The anterior cervical glands were noted to be enlarged in 0.4% and the posterior in 0.9% of the children. The principal causes of enlarged glands are carious teeth, enlarged tonsils and adenoids, verminous heads, discharging ears, and sores on the head and face.

EAR DISEASE AND HEARING.

At the routine inspections 5 boys and 8 girls were found to have a discharge from each ear; 12 boys and 10 girls suffered from unilateral ear discharge. In most cases these conditions were associated with the presence of adenoid growths in the throat. Amongst the special cases were 7 of discharge from each ear and 31 of unilateral discharge. Throughout the year, the forced whisper test was used as a test of hearing. In 93.8% of the boys and 94.6% of the girls the hearing was normal and the whisper could be heard at a distance of 20 feet with each ear. Over 50 children could not hear at a greater distance than 5 feet in one or both ears.

SPEECH.

Twenty-two cases of stammering were noted at the routine inspections, 63 of lisp and other forms of defective articulation. Amongst the special cases were 5 of defective articulation and one of stammering. In view of

the disabilities from which stammerers suffer in an unsympathetic world the following leaflet was drawn up for the use of such cases in the hope that improvement might be effected.

BOOTLE EDUCATION COMMITTEE.

DIRECTIONS FOR THE TREATMENT OF STAMMERING AND DEFECTIVE SPEECH.

1. Practise deep breathing exercises for ten minutes every morning.
2. Always take a deep breath before attempting to speak, and speak with a loud voice.
3. Speak slowly and deliberately : do not hurry over your words and do not change your mind as to the word you will use in the middle of a sentence.
4. Read aloud for ten minutes every day.
5. Note the letters stammered over, especially those in ordinary conversation, and practise them.
6. Practise singing sustained notes.

In order that the defect may be remedied, it is of the utmost importance that these exercises should be carried out **EVERY DAY**.

MENTAL CONDITION.

Of the 1985 leavers and intermediates examined at routine inspections, the mental condition of 34 or 1.7% was adversely reported upon. Thirty or 1.5% were regarded as merely dull or backward, and 4 as feeble-minded. Amongst the 1364 entrants 3 dull and 2 feeble-minded cases were reported.

Amongst the special cases examined for the first time as such during 1914 two were regarded as dull or backward, and 19 as mentally defective.

A circular letter was addressed to the Head Teachers, asking them to supply particulars required under the heading "Dull or Backward Children" in form III of the Board of Education (see p. 55). The replies indicated that 329 children (135 boys and 194 girls) were retarded two years as judged by the standard in which they were and the standard in which children of their age ought to be : 103 (29 boys and 74 girls) were retarded three years and 16 (11 boys and 5 girls) four years. At the time of writing this report detailed examinations of all cases of suspected mental deficiency are being made.

HEART AND CIRCULATION.

At the routine inspections 10 cases (or 0.29%) of organic heart disease were noted ; in two of these cases chorœa was also present. Amongst the special cases were 7 of organic heart disease.

One hundred and twenty-five cases of anaemia or 3.73% were noted at the routine examinations. This defect was also found in 12 special cases.

LUNGS.

One hundred and fifty-one (or 4.5%) of the children inspected at routine examinations were found to be suffering from bronchial catarrh or bronchitis. Seventy-five of these or 5.49% of the 1364 examined occurred in infants. Mention is made of phthisis under the heading "tuberculosis."

NERVOUS DISEASES.

Ten defects were discovered at routine inspections, including three cases of epilepsy, two of chorea and four of infantile paralysis. At the special examinations 21 cases were seen ; seven of epilepsy, eleven of chorea and 3 of infantile paralysis. Amongst the epileptic cases were 4 in which the fits were definitely those of *grand mal*. In one of these cases there was evidence of mental impairment.

TUBERCULOSIS.

Pulmonary.—At the routine examinations, 5 children were found to be suffering from active Pulmonary Tuberculosis, while 29 were provisionally classed as "doubtful."

Of the special cases 4 were found to be suffering from what was regarded as active tuberculosis of the lungs, namely 1 boy and 3 girls : there were eight cases of doubtful tuberculosis.

Osseous.—At the routine inspections, 1 case of osseous tuberculosis, viz., hip joint disease, was found. Amongst the special cases were 6 of osseous tuberculosis ; in 4 the hip joint was involved, in one the knee, and one the spine.

Glandular.—6 cases of tuberculosis of the glands were found at the routine inspections ; in each case the glands of the neck were involved. There was one case of glandular tuberculosis amongst the special cases ; here also, the glands of the neck were affected.

Other Forms.—One of the routine cases was suffering from scrofuloderma and one routine and one special from tuberculous peritonitis.

The above records of School Medical Inspection do not give a complete account of the extent of tuberculosis amongst children of school age. To obtain fuller information resort has been made to the records of the tuberculosis office in which most of the cases seen by the School Medical Officer were referred. In the unreferrred cases a private practitioner undertook the treatment.

In the course of the year 128 cases of tuberculosis in children of school age came under observation. This is 0·87% of the children of school age in the town. 82 of the cases or 0·56% of the school population were of pulmonary disease and 46 or 0·31% of non-pulmonary.

The age and sex distribution of the cases is shown in the next table :—

Ages.	Pulmonary		Non-Pulmonary		Totals.
	Males	Females	Males	Females	
5	—	2	2	1	5
6	3	4	2	3	12
7	2	3	2	1	8
8	6	4	2	2	14
9	2	6	5	—	13
10	10	7	3	3	23
11	2	4	4	3	13
12	4	8	1	5	18
13	2	8	2	2	14
14	1	4	1	2	8
Totals	32	50	24	22	128
	82		46		

Table showing the location of the disease in the non-pulmonary cases :—

						Males		Females
Glands of neck	..	..	..	..	..	13	..	9
Mesenteric Glands	..	..	..	..	..	1	..	—
Mediastinal Glands	..	..	..	..	..	1	..	—
Spine	..	..	..	..	..	2	..	2
Hip joint	..	..	..	..	..	4	..	9
Knee	..	..	..	..	..	—	..	1
Epididymis	..	..	..	..	..	1	..	—
Meninges	..	..	..	..	..	2	..	—
Skin	..	..	..	..	..	—	..	1
Totals						24	..	22
							46	

During the year, eight deaths from pulmonary, and three from non-pulmonary tuberculosis occurred amongst the cases tabulated above.

Twenty-five of the pulmonary cases were treated in institutions during some part of the year, 51 received dispensary treatment only, and 6 treatment from private practitioners only. The non-fatal pulmonary cases comprise twenty of early disease, 41 intermediate or chronic and 13 advanced.

Of the 46 non-pulmonary cases 13 received institutional treatment during the year, 24 dispensary only, and 9 were treated by private practitioners.

In addition to the above-mentioned definite and notified cases of tuberculosis there are 43 pulmonary and 5 non-pulmonary cases of suspected tuberculosis which are under observation by the Tuberculosis Officer.

Seventeen definite cases of pulmonary disease, all early and non-infectious, and 23 of non-pulmonary, together with 27 of the suspected pulmonary and 2 of the suspected non-pulmonary cases were in attendance at an ordinary school in December, 1914.

RICKETS AND DEFORMITIES.

At the routine inspections, 34 children (or 1%) were found to be suffering from the results of rickets, 29 were slight and 5 were marked cases. 22 of the cases were boys and 12 girls.

There were 37 children suffering from deformities : in 19 the deformity was due to rickets, 5 were congenital in origin, and 4 the result of infantile paralysis.

Amongst the special cases were four in which rickety deformity of the legs was marked, and 3 of infantile paralysis in each of which one lower limb was affected.

OTHER DEFECTS OR DISEASES.

At the routine inspections, 64 children suffering from "other" defects were reported. Under this heading are included hernia, naevi, tumours, abscesses, etc. At the special examinations, there were 77 cases of other diseases, including 16 mumps, 11 chickenpox, 8 rheumatism, 4 enuresis and 1 hernia.

Deaths.—The deaths of 53 children of school age occurred during the year : 8 were the result of phthisis ; 2 tuberculous meningitis ; 1 tuberculosis of mesenteric glands ; 7 pneumonia ; 4 organic heart disease ; 3 enteritis, 3 measles, 1 whooping cough, 3 diphtheria, 4 meningitis (other than tuberculous), 2 nephritis and 5 accident.

REVIEW OF ACTION TAKEN TO PREVENT THE SPREAD OF INFECTIOUS DISEASES.

The methods detailed in previous reports are still in use.

Scarlet Fever.—The number of cases notified amongst children of school age was 122. There was no excessive prevalence in any of the schools.

Diphtheria.—During the year 26 cases of Diphtheria occurred in children of school age. In no school was there any definite evidence of school infection.

Measles.—During the year, 427 cases of measles occurring in school children were brought to the notice of the School Medical Officer. The

cases mostly occurred during March, April, May and June. During the year there were 39 deaths from measles, but only 3 of these occurred in children of school age ; 9 were children under 1 year ; 19 were aged 1 year, and 8 between the ages of 2 and 5 years. This shows that although large numbers of children may be absent from school because of measles, yet the disease is not quite so serious in school children as in those below school age. Each case was visited, and all children who lived in the same house and attended an infants' department, whether they had previously suffered from measles or not, were excluded from school. Contacts of any age who had not had measles were also excluded, but children over the age of seven who had had the disease were in most cases allowed to attend. This course was adopted, because it is believed that the virus of measles, though infectious from person to person, is very short-lived when outside the human body. It was necessary to close two Infants' Departments : that of the St. James' School was closed on the afternoon of June 4th, when 76 cases of measles and 20 contacts were absent, and the attendance was 71% of those on the school roll. It was re-opened on the morning of June 22nd. The Infants' Department of the Salisbury Road Council School was closed for the same period ; there were 40 cases of measles and 12 contacts absent from school : the attendance was 73%.

The Superintendents of the Sunday Schools in districts where the day schools were closed were asked to close the classes attended by children under seven years for the same period as that for which the day schools were closed, and they did so.

Whooping Cough.—During 1914, 14 deaths from this disease occurred ; all but one were of children below school age. 75 cases in school children were reported, and these together with 27 contacts were excluded. As in the case of measles, contacts who are on the roll of a *Senior* Department are allowed to attend school *if they have had the disease* : all contacts in Infants' Departments are excluded whether they have had the disease or not.

Mumps.—During the year 298 cases of mumps were reported ; 77 attended St. John's and 63 Salisbury Road School. These were all excluded from school. Contacts of cases of this disease are not excluded.

Chickenpox.—There occurred amongst school children 169 cases of chickenpox and these together with 62 contacts were excluded.

The following table gives the schools from which cases, and contacts of cases, of measles and other infectious diseases were notified.

	Measles			Chickenpox			Whooping Cough			Mumps
	Cases	Con-tacts	Total	Cases	Con-tacts	Total	Cases	Con-tacts	Total	Cases
Salisbury Road	65	25	90	21	11	32	4	—	4	63
Hawthorne Road	12	12	24	7	2	9	13	6	19	31
Linacre Lane	61	18	79	25	8	33	1	—	1	29
Bedford Road	7	2	9	3	1	4	12	1	13	12
Gray Street	63	44	107	21	5	26	13	2	15	11
St. James,	89	28	117	12	10	22	12	1	13	3
St. Mary's	17	9	26	24	14	38	3	2	5	11
Christ Church	10	2	12	19	4	23	10	9	19	8
St. John's	22	11	33	4	2	6	1	3	4	77
St. Alexander's	9	4	13	4	—	4	2	—	2	1
St. Winefride's	18	11	29	12	3	15	3	1	4	11
St. James' Select	1	2	3	6	2	8	1	2	3	3
Orrell	52	19	71	8	—	8	—	—	—	38
Balliol Road	1	2	3	3	—	3	—	—	—	—
Totals	427	189	616	169	62	231	75	27	102	298
No. of visits & re-visits	883			276			163			305

The total number of visits paid to all cases of minor infectious diseases, was 1627.

II. "Following Up" and Medical Treatment.

A re-examination took place in each department : the number re-examined in school and at the Town Hall was 2,871.

Work of School Nurses.—Miss Nicholls was at work throughout the whole of the year ; Miss Hughes took up her duties in May.

During the year 5,013 visits were paid by the Nurses to the homes of children whose names appear on the Following-Up Register, and 103 visits were made by a pupil School Nurse. The nurses visit periodically children excluded from school for an indefinite period because of illness (except tuberculous cases, all of which are dealt with by the Tuberculosis Staff). All work under the verminous children section of the Children Act is

carried out by the School Nurses and as time permits, whole classes or departments are systematically inspected for the detection of dirty conditions. The School Nurses do not attend the routine inspections with the Medical Inspector but sometimes they visit the school the day before his arrival, to weigh and measure the children and test their vision. The vision of all who fail to read 6/6 is re-tested by the Medical Inspector. The nurses assist at all re-inspections. Miss Nicholls attends the Ophthalmic Clinic two afternoons each week and Miss Hughes is in charge of the minor ailment clinic which is held at 8.30 each morning. Except in time of epidemic, cases of minor infectious diseases are visited by the Lady Sanitary Inspectors. It has been possible to do considerably more since the second School Nurse joined the staff, but even now much has to be left over. The Chief Medical Officer of the Board of Education states in his last report that "one school nurse working full time cannot deal with a school population of more than 2,000 to 3,000." On the lower basis 4 nurses would be required for Bootle.

Care Committee.—There is only one Care Committee in Bootle, namely that in connection with Hawthorne Road School. At first, numerous cases requiring medical attention were referred to them for the purpose of being followed-up, but as such cases are usually outside the scope of a visitor who has not been specially trained, the usual type of case now sent is that in which clothing or footwear is deficient or defective, or where increased cleanliness is needed. Also, a few difficult cases of defective vision have been dealt with very efficiently by their Honorary Secretary.

National Society for the Prevention of Cruelty to Children.—There is close co-operation between the officers of the School Medical Service and the local branch of the National Society. Many cases of neglectful or obdurate parents who refused to remedy serious defects in their children have been brought to a right frame of mind after visits from the Society's Inspector. One case may be mentioned in which a girl was suffering from inflammation in a blind eye which threatened to cause sympathetic inflammation, with consequent loss of sight, in the other. It took several weeks of patient argument before the parents could be persuaded to have the blind eye removed in order to prevent danger to the sight of the sound one, but eventually this was done, and the operation was performed at a Liverpool Hospital.

TABLE IV.—TREATMENT OF DEFECTS OF CHILDREN DURING 1914.

Defect	No. of defects for which Treatment was considered necessary.			No. of defects for which no report is available.	No. of defects treated	Results of Treatment.			Percentage of defects.			
	Previous Years.	New.	Total			Remedied	Improved	Unhanged	No. of defects not treated.	Treated.	Not treated.	No Report
Cleanliness of Head	140	60	200	10	190	26	130	34	—	95.0	—	5.0
Cleanliness of Body	9	3	12	2	10	1	7	2	—	83.3	—	16.7
Nutrition	137	64	201	5	196	37	99	60	—	97.5	—	2.4
Nose and Throat	429	287	716	19	520	120	193	207	177	72.6	24.7	2.6
External Eye Disease	51	132	183	4	179	79	*69	31	—	97.7	—	2.1
Ear Disease	60	40	100	5	95	19	26	50	—	95.0	—	5.0
Teeth	3	2	5	—	2	1	1	—	3	40.0	60.0	—
Heart and Circulation: (including anaemia)	151	50	201	7	194	38	101	55	—	96.5	—	3.5
Lungs	105	103	208	12	196	55	100	41	—	94.2	—	5.7
Nervous System	15	20	35	2	33	7	13	13	—	94.2	—	5.7
Skin	23	154	177	—	177	147	21	9	—	100.0	—	—
Ringworm	19	88	107	—	107	75	32	—	—	100.0	—	—
Rickets	11	15	26	1	25	—	7	18	—	96.0	—	3.8
Deformities	20	20	40	—	40	5	9	26	—	100.0	—	—
Tuberculosis—												
non-pulmonary	17	18	35	—	35	6	17	12	—	100.0	—	—
Speech	5	12	17	—	17	4	8	5	—	100.0	—	—
Mental Condition	40	34	74	1	73	†22	11	40	—	98.6	—	1.3
Vision and Squint	289	700	989	12	843	644	*199	—	134	85.2	13.5	1.2
Hearing	60	50	110	4	106	18	37	51	—	96.3	—	3.6
Miscellaneous	60	79	139	2	137	73	30	34	—	98.5	—	1.4
Totals	1644	1931	3575	86	3175	1377	1110	688	314	88.8	8.8	2.4
Percentages					2.4	38.8	38.5	31.0	19.2	8.8		

*Attending Clinic, Hospital or Private Practitioner.

†Nothing further can be done.

Full records of all cases of deficient clothing and footwear are not available for 1914, hence no figures are given.

The total number of defects for which treatment was required was 3,575, compared with 4,038 in 1913 and 3,254 in 1912. The percentage cured or remedied was 38.5, compared with 32.7 in 1913 and 29.8 in 1912, while the percentage of the total who had secured some treatment was 88.8, compared with 85.8 and 83.7; these are a tribute to the value of the work done by the School Nurses. Of the 314 untreated and still at

school, 134 were cases awaiting treatment for defective vision and 177 were cases of adenoid growths or enlarged tonsils, for which an operation is required. No facilities exist for the necessary treatment of these children.

The 86 defects under the heading "no report" occurred in children who were absent at the time of re-examination and the School Nurse could not get into touch with them because of their change of address or other reason. The figures in the table relate only to children still at school. During the year 570 cards relating to defects in children who have left school were removed. The following table shows that 278 of these defects had been treated.

	Total.	Treated.	No Treatment	No Report
Dirty Conditions ..	42	38	—	4
Skin Disease ..	10	10	—	—
External Eye Disease	17	13	—	4
Vision and Squint ..	157	49	55	53
Tonsils, Adenoids, & Mouth Breathers	158	47	88	23
Ears	39	13	14	12
Malnutrition ..	48	41	—	7
Tuberculosis ..	34	18	—	16
Various	65	49	—	16
	570	278	157	135

141 of the 570 defects were discovered in 1914 and 429 in previous years. 127 children left the district in course of the year.

Of the 292 who have left school and are in the "no treatment" or "no report" groups, it is probable that the Certifying Factory Surgeon will cause some of the defects to be remedied by refusing to grant a certificate of fitness for work in a factory until the defect is remedied.

Minor ailments.—These are defined by the Medical Officer of the Board of Education to be 'broadly those for which the actual treatment need not be carried out by a medical man, but can be undertaken by a trained nurse under supervision.' A clinic for the treatment of these ailments has been open since the 31st August, 1914. It is held in the basement of the Town Hall at 8.30 a.m. each week-day, and is attended by Nurse Hughes and the Medical Inspector. Considerable difficulty has been experienced in getting the children to attend regularly.

The table gives particulars of the cases dealt with up to the 31st December, 1914.

Defects.	Number of children	Number of attendances	Cured.	Improved and still attending
Phlyctenular Conjunctivitis	2	.. 30	2	.. —
Catarrhal Conjunctivitis	12	.. 117	11	.. 1
Blepharitis	.. 3	.. 40	2	.. 1
Keratitis	.. 1	.. 2	1	.. —
Eczema Capitis	.. 14	.. 108	12	.. 2
Eczema	.. 7	.. 42	7	.. —
Dermatitis	.. 1	.. 34	1	.. —
Impetigo	.. 15	.. 129	12	.. 3
Septic toe or finger	.. 3	.. 33	3	.. —
Ringworm of scalp	.. 10	.. 185	1	.. 9
Abscess	.. 4	.. 26	3	.. 1
Otorrhoea	.. 4	.. 36	3	.. 1
	76	.. 782	58	.. 18

Dirty Conditions.—Only marked cases of uncleanliness are included in the following-up register, and their names are kept upon the list for frequent visitation until the improvement is material and likely to be permanent. It is regrettable that so many as 36 should still be "unchanged" though special visits were paid to their homes by the School Nurses.

Nutrition.—In 60 cases the malnutrition still persists and is unchanged. In some cases there is an underlying physical defect such as adenoids or tuberculosis; in others it is due to neglect at home and unsatisfactory environment. Most of these cases receive free breakfasts at school during the winter months.

Nose and Throat.—The “remedied” and “improved” cases are mostly children who were mouth-breathers and who by perseverance with breathing exercises have overcome the defect. In 207 there is no improvement despite the regular performance of these exercises: these are mostly cases of markedly enlarged tonsils or of adenoid growths in the throat for which operation is required. The 177 for whom no treatment has been obtained are all cases in need of operative treatment. It was reported last year that only a few cases of this nature were received for operation in the local hospitals and during 1914 even these limited facilities were almost unobtainable. It is not necessary in these enlightened days to labour the far-reaching effects of adenoids, the more important of which are impaired mental and physical development, deafness and increased liability to infectious disease. Towards the end of the year the Authority resolved to make definite arrangements for the operative treatment of these cases. The scheme provided for the use of three rooms in the Junior Technical School premises for one half day each fortnight; a throat specialist would be appointed, and the Medical Inspector would administer anaesthetics. As the military have temporarily taken over the premises, the completion of the scheme has been postponed until the Junior Technical School is again available or other premises can be found.

External Eye Diseases.—Complete facilities exist for the treatment of all such cases at the Authority's Ophthalmic Clinic. An account of the cases treated is given on page 31.

Teeth.—Arrangements were made for the opening of a dental clinic at the Junior Technical School for one half day each week from early in 1915. But as in the case of the Throat Clinic this project also has been suspended.

The Board of Education direct attention to the following conditions of a satisfactory scheme of dental inspection and treatment:—

“ 1. The arrangements, including the keeping of records, should be under the control and supervision of the School Medical Officer, on whose staff the dentist undertaking the work should be formally appointed.

2. Dental inspection should be carried out by a qualified dentist, preferably by the dentist undertaking the treatment. Dental inspection should, as a rule, take place on the school premises and in school hours. It is not advisable that children should be sent to the private houses or surgeries of dentists.

3. Attention should be concentrated in the first instance on the group of children from 6 to 8 years of age. Some dentists prefer to begin with five year old children. The “critical age” is, of course, the time of the emergence of the permanent teeth.

4. An accurate record should be kept of each mouth examined and of the treatment carried out. This record is necessary in the interest of the Authority, the dentist, and the child, and greatly assists in “following-up ; and re-examination. The record may be in schedule form only, or preferably, it may be accompanied by a graph of the dentition. It should be filled in at inspection and used in the same way as the medical inspection schedule. There is no need for it to be of an elaborate character. In practice it is found that in favourable circumstances a school dentist can examine from 40 to 60 children in a school session of two hours, and record his findings.

5. The treatment should be conservative in character, and accordingly the bulk of the treatment work should be by filling rather than by extraction. Conservative dentistry includes also preventive measures, such extraction work as contributes to the preservation of the dentition as a whole, and any mechanical devices necessary to regulate the teeth.

6. A school nurse, or other attendant, should be present to assist the dentist at the time of treatment.

7. General anæsthetics, if required, should in all cases be administered by one of the Authority’s medical officers, or by some other qualified medical practitioner.

8. Provision should, as far as practicable, be made for the re-examination at intervals of not more than a year, of children who have

received dental treatment and for supplementary treatment if such is found to be necessary. Periodical re-inspection of children with healthy dentures is also desirable.

9. The accommodation proposed for a dental clinic should include as a minimum (a) a play-room or waiting room, (b) an operating room (with good north light preferably) and (c) a small rinsing room, which can be used also for recovery after the administration of an anaesthetic.

10. The dental scheme should be appropriately co-ordinated with the whole scheme of treatment devised by the Authority, particularly that part of it concerned with the therapeutics of the ear, nose, and throat, the tuberculosis dispensary, and institutions such as open air schools, children's sanatoria, and residential recovery schools."

Ringworm.—There is still no definite arrangement for the X-Ray treatment of cases of Ringworm of the scalp. Several of the children receive treatment by application of germicides at the Minor Ailments Clinic.

Tuberculosis.—Treatment at the Corporation Dispensary is now provided for all cases of tuberculosis.

Vision and Squint.—The arrangements for sending cases of defective vision to the Borough Hospital set out in last year's report were carefully considered after twelve month's experience had been gained. At a joint meeting of representatives of the Authority and of the Hospital, the latter asked that considerably increased payment be made if the agreement was to continue. After prolonged deliberation the Authority decided to make their own arrangements with the Ophthalmic Surgeon and have now established an ophthalmic clinic in the basement of the Town Hall. In this connection the following extract from the last report of the Chief Medical Officer of the Board of Education is of interest:—“ Experience goes to show that under ordinary circumstances adequate treatment of 'School Diseases' may be more readily and economically obtained by the establishment and equipment of a centre under the entire control of the Education Authority, than by any other means.”

The Board of Education have approved the establishment of the Clinic on the following conditions: “(1) that steps will be taken to ensure that children for whom spectacles are prescribed actually obtain them,

and afterwards to ascertain whether the spectacles are being worn regularly and with satisfactory results ; (2) that provision will be made for the re-examination by the Specialist at suitable intervals of all cases, which, in his opinion, require it ; and (3) that the arrangements generally will be under the supervision of the School Medical Officer, and that an account of the working of the arrangements will be given in his Annual Report." All children who receive spectacles are asked to report in 6 months and are looked up if they fail to do so. It is found that the children often do not wear the spectacles as regularly as they should ; this could be controlled to some extent if the teachers would report all cases in which the glasses are not worn in school. The number of cases seen throughout the year is 830, and details are set out on page 31 and 35. There is still a considerable number on the waiting list, but it is hoped that all outstanding cases will be dealt with shortly.

A spectacle-maker attends the clinic and the children are measured for spectacles as soon as the prescription is given. In cases where it is ascertained that the parents cannot afford to buy a pair the Authority pays for them. During the calendar year, 210 pairs of new spectacles were provided and one pair was repaired. The total cost was £41 9s. 3d., of which 14s. 6d. was recovered from the parents ; 36 pairs @ 1/6 were bought ; 1 @ 1/9 ; 1 @ 3/- ; and 171 @ 4/6. The repair cost 1/-.

Sometimes, at the examination in school, it is doubtful whether a young child cannot read the test type through nervousness or because of defective vision ; such cases were carefully re-tested in the Town Hall by the Medical Inspector ; in 54 the matter is still in doubt, and they will be re-tested subsequently.

III. General Review of the Hygienic Conditions prevalent in the Schools.

All the schools were inspected : the minor sanitary defects discovered in most have received attention. The ventilation and lighting of certain of the older schools are unsatisfactory and should as far as possible be rectified. Nothing has been done to improve the means of exit from the upper floor of St. John's School. In St. James' School the number of wash-hand basins is totally inadequate ; there is one for every 163 scholars

in the Boys' Department, and even fewer in the other departments. In St. John's School there is no wash-hand basin whatsoever for the use of the infants. The Authority are willing to provide basins if the Managers of these schools will fix them.

IV. Provision and Management of Special Schools.

This subject can best be introduced by the insertion of the "Numerical Return of all exceptional children in the Area" required by the Board of Education.

TABLE III.
Numerical Return of all exceptional children in the Area.

			Boys	Girls	Total
BLIND. (including partially blind)		Attending Public Elementary Schools	8	6	14
		Attending Certified Schools for the Blind	9	2	11
		Not at school	1	2	3
DEAF AND DUMB, including partially deaf		Attending Public Elementary Schools	..	1	1
		Attending Certified Schools for the Deaf	4	1	5
		Not at School .. .. ..	..	..	..
Mentally Deficient	Feeble-Minded	Attending Public Elementary Schools	8	13	21
		Attending Certified Schools for mentally defective children .. .. ..	..	..	..
		Notified to the Local (Control) Authority during the year .. .. ..	..	..	..
		Not at School	1	5	6
Imbeciles		At School .. .. ..	..	..	..
		Not at School	4	..	4
Idiots		—	2	1	3
Epileptics		Attending Public Elementary Schools	6	6	12
		Attending Certified Schools for Epileptics	..	..	..
		Not at School	1	..	1
Physically Defective	Pulmonary Tuberculosis	Attending Public Elementary Schools	8	9	17
		Attending Certified School for Physically Defective Children .. .. ..	..	..	..
		Not at School	22	35	57
Other forms of Tuberculosis		Attending Public Elementary Schools	13	10	23
		Attending Certified School for Physically Defective Children	1	3	4
		Not at School	8	8	16
Cripples other than Tubercular		Attending Public Elementary Schools	2	3	5
		Attending Certified School for Physically Defective Children .. .. ..	..	..	..
		Not at School	3	..	3
Dull or backward (judged according to Age & Standard)	Retarded 2 years	135	194	329	
	,, 3 ,,	29	74	103	
	,, 4 ,,	11	5	16	

Blind or Partially Blind Children.—The 14 partially blind children, who attend an ordinary school, are suffering from progressive myopia, and their sight will become much worse and may fail altogether unless they are educated suitably. The majority are not now suitable for admission to a blind school and at the same time are quite unsuitable for education in an ordinary class of a public elementary school, the routine of which will cause their vision to rapidly deteriorate unless they receive special attention. Nine blind children are at Hardman Street School for the Blind, Liverpool, one at Brunswick Road School for the Blind, Liverpool, and another at the School for the Blind, Fulwood, Preston. One of the three children who are not at school has been recommended for a blind school and is awaiting admission. One is both blind and deaf and will be recommended for a special school shortly, the third is only six years of age, and is about to be certified for a special school.

Deaf and Dumb Children.—Four children are at Oxford Street Deaf and Dumb School, Liverpool, and one is at St. John's Deaf and Dumb School, Boston Spa.

Mentally Defective Children.—The 6 feeble minded children not on a school roll have been excluded permanently. The 21 who attend school have been reported by the Head Teachers, and will shortly be examined for purposes of classification. It is now compulsory upon the authority to provide education for those feeble-minded in their area who age exceeds seven years. Such education must be continued until the children reach sixteen years of age. It is perhaps necessary to point out that the feeble-minded are the highest group of mentally defective persons: the legal definition of *feeble-minded* persons is "those in whose case there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they require care, supervision, and control for their own protection or for the protection of others, or in the case of children, that they by reason of such defectiveness appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools."

Imbeciles (including moral imbeciles) and Idiots are not suitable for admission to a special school and such cases must be reported to the Lancashire Asylums Board who are the local authority under the Mental Deficiency Act. The definitions of these cases are:—

Idiots : " that is to say, persons so deeply defective in mind from birth or from an early age as to be unable to guard themselves against common physical dangers."

Imbeciles : " that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or in the case of children, of being taught to do so."

Moral Imbeciles : " that is to say, persons who from an early age display some permanent mental defect coupled with strong vicious or criminal propensities on which punishment has had little or no deterrent effect."

The model arrangements of the Board of Education concerning the discovery and investigation of cases of mental defect have been adopted. It is probable that some mentally defective cases of all grades are still unreported. In providing accommodation for feeble-minded cases, the question of providing for those who require education in a residential school as well as for those who cannot attend a special day school or class will have to be considered. A report on the subject is in course of preparation.

Epileptics.—No provision is made in Bootle for the special education of epileptics. In one case the fits are severe, and the child has been excluded from school. In the other twelve cases, the fits are infrequent.

Tuberculosis.—The figures in the table relating to tuberculosis are probably more accurate than those relating to other diseases or defects because tuberculosis is compulsorily notifiable. 17 cases of pulmonary and 23 of non-pulmonary tuberculosis are fit to attend an ordinary school, though they would all be much better in an open-air class or school. 57 cases of pulmonary and 16 of non-pulmonary disease are not at school. No provision is made by the Education Authority for the treatment or special education of any of these children. The Sanitary Authority, however, provide dispensary treatment for cases which are suitable for that form of treatment : a few children suffering from pulmonary disease are taken into the Maghull Sanatorium and the Open-Air Ward of the Linacre Hospital, and one case of tuberculous spine has been sent to the Leasowe Sanatorium by them. The Bootle Insurance Committee have maintained

three beds at Leasowe for children dependent upon insured persons since July 1914 ; three cases of hip disease have been there since the opening of the Institution, and are all doing well. The reports state that there is every prospect of these cases becoming useful self-supporting citizens.

The need for greater provision for cases of tuberculosis is most marked. Particulars of the cost of institutional treatment are given in last year's report. Sir George Newman states in his annual report : " It is important that the Authority responsible for the physical welfare of the school child should recognise the fact that the disease is more amenable to treatment in childhood than in later life and that relatively small outlay of money in preventive and medical measures during this period may effect a correspondingly large reduction in sickness and ill-health during early adult life. Money wisely spent on the amelioration of tuberculosis in the child will be more than repaid to the community by the increased economic and industrial value of the grown man or woman."

Cripples other than tuberculous.—The list of these children is probably incomplete ; the incompleteness arises from the fact that many seriously crippled children are not sent to school and hence are not brought to the notice of the School Authorities. Three of the children who are attending an ordinary school are suffering from marked rickety deformity and the other two from deformity resulting from infantile paralysis. The three not on a school roll are suffering from very marked rickety deformity.

V. Physical Training, etc.

The interest taken in Physical Training, organised games, swimming and games clubs, noted in former reports continues.

Playground Classes.—There is need for an extension of the practice of teaching the children in the open air during the summer months. In some schools various classes are taught in the playground for a certain number of lessons each week, and in all schools the physical exercises are performed in the playground, unless the weather is very bad. In the absence of an open-air school it is advisable to collect together a number of debilitated children and teach them entirely in the open air : an awning and the necessary school furniture would be alone required.

VI. Juvenile Employment.

The Juvenile Employment Sub-Committee and their officer, continue to avail themselves of the records of Medical Inspection of the leavers, and particulars as to the physical condition of 600 children about to leave school were supplied during the year. A considerable number of children continue to leave school without securing treatment for their defects. The Factory Surgeon can insist on treatment being obtained before he certifies that those who have to come before him are fit for work, but in a large number of employments no such examination is required. In later years the neglect to obtain treatment will often be regretted.

VII. Feeding of School Children.

A report by the Secretaries of the School Canteen Committee on the work performed during the winter session 1913-1914 has been sent to the Board of Education and circulated amongst the Committee.

New developments in connection with the work are the issue of Regulations made by the Board of Education, under which grants in respect of the provision of meals for school children attending Public Elementary Schools will be paid, and under the Education (Provision of Meals) Act, 1914, meals can be given during holidays. In distributing the grant the Board will take into consideration

"(a) the extent to which the work is co-ordinated with that of the School Medical Service ;

(b) the care exercised in the selection of the children for admission to the meals :

(c) the sufficiency and suitability of the dietary ;

(d) the extent to which attention is given to the educational aspect of the work :

(e) the suitability of the accommodation and equipment and the efficiency of the service and supervision of the meals ;

(f) the completeness of the arrangements made for ascertaining and recording the effect of the meals on the physical and mental condition of the children :

(g) the economical administration of the work."

In November, Dr. Langdon of the Board of Education inspected the arrangements made. Following on a letter received from the Board after consideration of his report, various improvements were effected, notably in connection with the serving of the meals and the dietary, which now consists of the following :

BOROUGH OF BOOTLE.

SCHOOL CANTEEN COMMITTEE.

DIETARY.

(As revised, January, 1915).

DAY	BREAKFAST	SECOND MEAL, AT NOON, IN EXCEPTIONAL CASES
Monday	5 oz. Margarine 4 oz. Bread with or Dripping and $\frac{3}{4}$ pint Milk-Cocoa.	As for Breakfast, but with addition of $1\frac{1}{2}$ oz. Cheese.
Tuesday	As on Monday.	As on Monday.
,,	* <i>(Gray Street School only)— Porridge with Sugar and 3 oz. Bread & Margarine and $\frac{1}{2}$ Pint Warm Milk</i>	<i>4oz Bread & Margarine, $1\frac{1}{2}$oz. Cheese, and $\frac{1}{2}$ Pint Warm Milk.</i>
Wednesday	As on Monday.	As on Monday.
Thursday	$\frac{3}{4}$ Pint Soup with $\frac{5}{4}$ oz. Bread	$\frac{3}{4}$ Pint Soup with 4 oz. Bread, and 1 Seone
Friday	As on Monday.	As on Monday.
,,	* <i>(Gray Street School only)— Porridge, etc., as on Tuesday.</i>	<i>As on Tuesday.</i>

* As an experiment.

DEFINITIONS, ETC.

Bread.—The 5 oz. allowance is for one-third the number of children, the elder ones.

Milk-Cocoa.—A standard Pure Cocoa made in proportion of $1\frac{3}{4}$ lbs. to 100 children, and Pure Milk in proportion of $\frac{3}{8}$ pint per child ($4\frac{3}{4}$ gallons per 100 children) and a like quantity of water. Sugar, 2 lbs. per 100 children.

Soup.—Made from 14 lbs. Bones and 10 lbs. Split Peas for every 100 children. Salt and Pepper.

Note.—The Dripping from above takes the place of Margarine as available.

Porridge.—Composed of Oatmeal (medium) or Rolled Oats, alternately, in proportion of 6 lbs. to 100 children, with $6\frac{1}{2}$ gallons Water, and Salt, say 4 oz. Meal to soak overnight and to boil at least one hour.

Sugar (for Porridge).—W.I. Sugar in proportion of 6 lbs. to 100 children, and to be spread on Porridge when served.

In order to test the effect of the porridge breakfast another weighing experiment was carried out, on the lines of last year's experiment. Three groups with about 60 children in each were taken: one consisted of those who received breakfast at Gray Street School where porridge was provided on two mornings each week; the second those who received breakfasts at Hawthorne Road School where the ordinary breakfasts were given; and the third group was selected from children attending Christ Church School; they were of approximately the same age and sex as those in the other two groups. The weighings took place, through the kindness of the Head Teachers concerned, each fortnight for 10 weeks. Owing to absences and to children being taken off the free breakfast list the number whose weights were regularly taken throughout the period was only 35 in the case of Gray Street, 24 in Hawthorne Road and 57 in Christ Church. The weights of individual children showed considerable fluctuations, but an endeavour was made to have the conditions as similar as possible. The Christ Church (Non-breakfast) children gained between them 43 lbs,

12 ozs., an average of 13·7 ozs. each; the Hawthorne Road children 33 lbs., 3 ozs., or 22·1 ozs each, and the Gray Street scholars 40 lbs., 11 ozs., or 18·5 ozs. each. It is remarkable that the school breakfast children should gain more than the home breakfast ones. The results may be compared with those obtained in Sheffield where, owing to a larger number of children being weighed, and for a longer period, the error of chance is not so great.

Gain in weight per child per week.			
	Sheffield	Bootle	
Ordinary school cocoa breakfast ..	.. 1·58 oz.	2·21 oz.	
Home breakfast .. .. ..	.. 2·09 oz.	1·37 oz.	
Porridge breakfast .. .. ..	.. 3·317 oz.	1·85 oz.	

It is very desirable that porridge as an article of breakfast diet should be better known amongst the poorer classes; at present the children take it only with reluctance, and when it was first introduced at Gray Street several refused it, but after a few days this difficulty was overcome and the children now take it readily in the great majority of cases.

The following report by Dr. Milligan on School Feeding is of interest: it was prepared in May, 1914:—

“ The effects of insufficient or unsuitable food on the physique of school children are capable of accurate determination and the whole subject of the feeding of school children has now resumed a position of very great importance. The latest returns show that 137 out of a total of 322 Local Education Authorities in England and Wales now make some provision for the feeding of children in attendance at the Elementary Schools. With the object of ascertaining how far the effect of such meals could be measured the weight records of two groups of children in Bootle were kept over an extended period. The first group embraced 19 children attending the Day Industrial School. The weights in these cases were taken by the teachers, and great care was exercised to preserve the same conditions throughout, the children being without boots: the boys in shirts and trousers, and the girls in light underclothing only. The records were kept from January till September, 1913. The children are provided with three meals daily at the school. They attend school from 8.30 a.m. till 5. p.m., but outside these hours they are at home and subject to outside

influencees. Over the whole period the weights of the children, subject to minor fluctuations, showed a steady increase. Taking, however, two similar periods, May to July and July till September, the latter period embracing the school holidays of five weeks, two sets of figures are available for comparison. During the first period of full school attendance with full meals no child lost weight, though the weights of two remained stationary. At the end of the second period, the weights being taken soon after the holiday, six of the nineteen showed an actual loss in weight, while six others showed a relative loss in that the rate of increase was diminished. Four of the children showed a slight relative improvement, but each of the four had shown a regular increase in weight during the school term. All the children came from the poorest homes, and the majority are "voluntary," poverty being the sole cause of their admission. Since home conditions regarding sleeping accommodation, etc., are acting throughout, it is difficult to avoid the conclusion that losses of weight are the direct result of the loss of regular healthy nutriment.

The second group of children whose weights were recorded were in attendance at the ordinary elementary schools. Here breakfasts are provided for necessitous children, and in the case of some of the poorest some sort of mid-day meal is also provided. The teachers make the selection of children for breakfast, the selection being on a strict poverty basis depending on the wages of the household and the numbers dependant on them. That this broadly meets the requirements of the case is shown by the fact that the children receiving the meals are on the average lighter than other children of the same age who do not receive them. The meals are supplied during the winter months only. In order to determine if the effects of the meals might be reflected in the weight of the children, the weights of a large number of children in receipt of meals and a similar number not receiving them were taken regularly by the teachers from October, 1913, till March, 1914. The control children were not specially selected on account of good physique or otherwise, but were mainly of the poorer class. Unfortunately many of the records had to be rejected because of some doubt as to the manner of taking the weights, but the weights of 38 children in receipt of breakfasts remain for comparison, against those of 40 not receiving them. While it would be injudicious to draw any definite conclusions from the result, these results are nevertheless

less interesting. The breakfast children are found to show a higher percentage increase in weight than do the control, namely 5.8% against 5.4%. In May, 1914, six weeks after the cessation of the meals, the children were again weighed. The gross weight in both groups, however, remained practically constant. At the end of the period under review the breakfast children were still the inferiors of the controls, but as indicated their deficiency had been reduced, and one may hope that the provision of meals contributed to the result. Too many sources of error enter into the calculation to deduce that this effect was caused by the meals supplied. The increases in weight in boys varies at different periods of the year. The maximum rate of increase is from August to December, from which time until April is a period of average growth. From April till July is a period of minimal increase in weight. From other sources ample corroborative evidence is to be found of the beneficial effect of school meals. A recent (May 1914) brochure by M. E. Buckley, 'The Feeding of School Children,' contains ample evidence of these good effects. At Bradford in 1907, Dr. Crowley demonstrated the loss of weight of children during holiday times when meals ceased, while similar results have been found by other examiners. How delicately the weights of children reflect changed conditions of food and environment is shown by Greenwood from observations made at the Leeds Poor Children's Holiday Camp where, over a large number of observations, children after a fortnight's residence showed an increase of weight equivalent to about six months' normal growth. A further factor which appears to be insufficiently realised is the educational value of school meals. To teach the children the kind of food to eat and its method of preparation is bound to have a great future value when one appreciates the extravagant and useless methods of living at present employed by the poorer people. In this educational aspect lies not the least important feature of the whole School Medical Service. Most authorities give only one meal per day, and some difference of opinion exists as to which meal should be given. The Board of Education recommends that arrangements should be made to provide dinner, as being the principal meal of the day. From extensive inquiry amongst parents and children I am of opinion that breakfast as at present provided by probably most authorities is the better arrangement. The children at present would appear to get something resembling an orthodox dinner, but time and again one finds that the home breakfast is at fault, and still more frequently that

the children are unable to take such as is provided, either from the fact that sleeping overnight in ill-ventilated rooms leaves them little appetite, or from nervousness and excitement in getting to school."

